

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended Previously Presented) A method of embedding a signature in an audio-visual signal for authentication of said audio-visual signal, said signal being comprised of a plurality of sequential frames, each of said plurality of sequential frames being comprised of at least two frame portions, the method comprising the steps of:

storing a first frame portion of a frame of said audio-visual signal, thereby allowing for a reduced memory requirement relative to storing an entire frame of said audio-visual signal,

calculating a signature based on the stored first frame portion of said frame of said audio-visual signal,

storing a second frame portion of the frame to replace the first frame portion, the reduced memory requirement being

substantially equal to a size of the first frame portion or the second frame portion,

embedding the signature in one of said at least two frame portions of said frame of said audio-visual signal the second frame portion of the frame so that the signature is embedded in a different portion of the frame than a portion of the frame for which the signature is generated.

2. (Previously Presented) A method according to claim 1, wherein said at least two frame portions of said frame of said audio-visual signal respectively comprise patterns of horizontal lines of said audio-visual signal frame.

3. (Previously Presented) A method according to claim 1, whereby said steps of calculating and embedding are repeated until a said signature is embedded for all regions of said frame.

4. (Currently Amended) A method according to claim 1, whereby said at least two frame portions of said audio-visual signal comprise a slice of at least one consecutive line of a plurality of

horizontal lines comprising said frame of said audio-visual signal  
~~and said second field is a field comprising a slice of at least one~~  
~~consecutive horizontal line of a plurality of said horizontal lines~~  
~~comprising said frame of said audio-visual signal.~~

5. (Previously Presented) A method according to claim 4  
whereby said audio-visual signal is an interlaced signal and said  
first portion comprises one of all even or odd lines and said  
second portion comprises all remaining odd or even lines not  
included in said first portion.

6. (Currently Amended) A method according to claim 1 whereby  
said audio-visual signal is a non-interlaced signal and said first  
and second ~~fields~~ frame portions comprise consecutive slices of  
said audio-visual signal, wherein each of said consecutive slices  
are further comprised of at least one consecutive line of said  
frame.

7. (Previously Presented) The method according to claim 1,  
wherein the embedded signature comprises a watermark.

8.(Original) The method according to claim 7 whereby the watermark is embedded as a spread spectrum watermark.

9.(Original) The method according to claim 7, whereby the watermark is embedded in a different portion of said frame than the portion of said frame for which said signature is generated.

Claim 10 (Canceled)

11.(Previously Presented) The method according to claim 1 whereby the steps of calculating and embedding said signature are performed in real-time.

Claims 12-16 (Canceled)

17.(Previously Presented) The method according to claim 1, wherein the first and second portions are selected based on said audio-visual signal being one of an interlaced or a non-interlaced signal.

18. (Previously Presented) The method according to claim 17, in the case wherein said audio-visual signal is said interlaced signal, said first portion comprising an upper field of said single frame of said audio-visual signal and said second portion comprising a lower field of said single frame audio-visual signal.

19. (Previously Presented) The method according to claim 18, wherein said upper and lower portions comprise patterns of horizontal lines of said audio-visual signal, each of said patterns of horizontal lines having fewer lines than the entire audio-visual signal.

20. (Previously Presented) The method according to claim 17, in the case wherein said audio-visual signal is said non-interlaced signal, said first portion comprising an upper half of said frame of said audio-visual signal and said second portion comprising a lower half of said single frame in the case.

21. (Previously Presented) The method according to claim 20,

wherein each of said upper and lower halves of said frame comprise patterns of horizontal lines of said audio-visual signal, said respective patterns having fewer lines than the entire audio-visual signal.

22. (Currently Amended) An apparatus ~~for embedding configured~~ to embed a signature in an audio-visual signal for authentication of said audio-visual signal, said signal being comprised of a plurality of sequential frames, each of said plurality of sequential frames being comprised of at least two frame portions, the apparatus comprising:

means for storing a first portion of a frame of said audio-visual signal in a memory, thereby allowing for a reduced memory requirement relative to storing an entire frame of said audio-visual signal,

means for calculating a signature based on the stored first portion of said frame of said audio-visual signal, and

means for embedding the signature ~~in one of said first portion of said frame or a second portion of said frame of said audio-visual signal~~ a second frame portion of the frame so that the

signature is embedded in a different portion of the frame than a portion of the frame for which the signature is generated, wherein the means for storing has a capacity associated with a size of the first portion or the second portion.

23. (Previously Presented) The apparatus of Claim 22, wherein said means for calculating and means for embedding are performed while said first portion is stored in said memory storage device.

24. (Previously Presented) An apparatus according to claim 23, wherein said first and second portions comprise patterns of horizontal lines of said audio-visual signal, said patterns having fewer lines than the entire audio-visual signal.

25. (Previously Presented) The apparatus according to Claim 22, wherein said apparatus is a camera.

26. (Previously Presented) The apparatus according to Claim 25, wherein the camera is selected from the group consisting of: a surveillance camera, a security camera, a digital video camera and

a medical imaging camera.

27. (Currently Amended) A computer readable media having thereon the following computer-executable instructions configured for:

storing a first portion of a frame of an audio-visual signal, wherein said frame is comprised of at least two frame portions, thereby allowing for a reduced memory requirement,

calculating a signature based on the stored first frame portion, and

embedding the signature in one of said at least two frame portions of said frame of said audio-visual signal a second frame portion of the frame so that the signature is embedded in a different portion of the frame than a portion of the frame for which the signature is generated, thereby reducing a memory size for authenticating the frame from a size of the frame to substantially a size of the first frame portion or the second frame portion.

28. (New) A method of embedding a signature in an audio-visual



signal comprising the acts of:

dividing a frame of the audio-visual signal into substantially equal sized slices;

storing a first slice of the slices in a memory having a capacity which is substantially equal to a size of the slice;

calculating a first signature based on the first slice stored in the memory;

replacing the first slice in the memory with a second slice for calculating a second signature of the second slice; and

embedding the first signature in the second slice so that a signature is embedded in a different slice than a slice of the frame for which the signature is generated and a memory size for authenticating the frame is reduced from a size of the frame to substantially a size of the first slice.